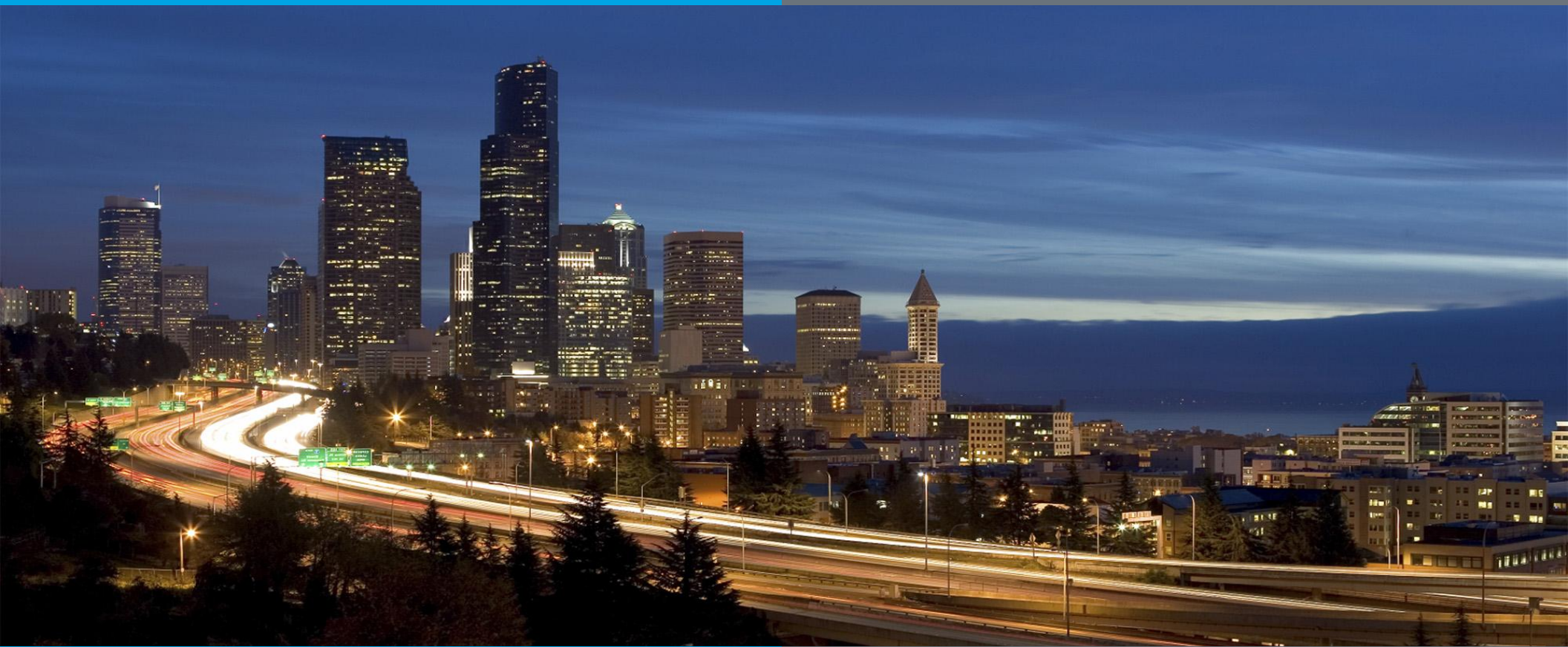


The Best of the Clean Cities Tools and Resources



March 28, 2014

Alexis Schayowitz & Sara Forni
Clean Cities Technical Response Service

ICF International, Supporting the National Renewable Energy
Laboratory

Categories:

- ☐ I. Calculators 
- ☐ II. Search Tools 
- ☐ III. Data & Statistics Resources 

How can you use these tools and resources to answer alternative fuel questions?

Alternative Fuels Data Center (AFDC) Tools

(www.afdc.energy.gov/tools)



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Alternative Fuels Data Center

Alternative Fuels Data Center

Search Help ▶

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Tools

The Alternative Fuels Data Center offers a large collection of helpful tools. These calculators, interactive maps, and data searches can assist fleets, fuel providers, and other transportation decision makers in their efforts to reduce petroleum use.



Calculators



[Vehicle Cost Calculator](#)

Compare cost of ownership and emissions for most vehicle models.

[mobile](#)



[Petroleum Reduction Planning Tool](#)

Create a plan for your fleet to reduce petroleum consumption and emissions.



[CNG VICE Model 2.0](#)

Evaluate ROI and payback period for natural gas vehicles and infrastructure.



[AFLEET Tool](#)

Calculate a fleet's petroleum use, cost of ownership, and air pollutant and GHG emissions.



[PEV Readiness Scorecard](#)

Assess your community's readiness for the arrival of plug-in electric vehicles.



Interactive Maps



[Alternative Fueling Station Locator](#)

Locate alternative fueling stations and get maps and driving directions.

[mobile](#)



[TransAtlas](#)

Analyze vehicle densities and locations of fueling stations and production facilities.



[BioFuels Atlas](#)

Compare feedstocks and analyze biofuel production by location.



[Truck Stop Electrification Sites](#)

Locate truck stops with electrification sites to reduce the need for idling.



[Coalition Locations](#)

Find Clean Cities coalitions and contact information for coordinators.



Data Searches



[Light-Duty Vehicle Search](#)

Compare light-duty alternative fuel vehicles, electric vehicles, and hybrids.



[Heavy-Duty Vehicle and Engine Search](#)

Find medium- and heavy-duty alternative fuel vehicles, engines, and hybrid systems.



[Fuel Properties Comparison](#)

Compare alternative fuel properties and characteristics.



[Laws and Incentives Search](#)

Search for laws and incentives related to alternative fuels and advanced vehicles.



[Find a Car](#)

Compare fuel efficiency, costs, carbon footprints, and emissions.

[mobile](#)


1

AFDC Vehicle Cost Calculator



mobile

Vehicle Cost Calculator

Compare cost of ownership and emissions for most vehicle models. 

2

Petroleum Reduction Planning Tool (PREP)



Petroleum Reduction Planning Tool

Create a plan for your fleet to reduce petroleum consumption and emissions.

3

Argonne National Laboratory (ANL)
Alternative Fuel Life Cycle Environmental
and Economic Transportation (AFLEET)
Tool



AFLEET Tool

Calculate a fleet's petroleum use, cost of ownership, and air pollutant and GHG emissions.

“Is there a basic tool I can use to compare the cost of ownership and emissions for a light-duty alternative fuel vehicle (AFV) vs. a light-duty conventional vehicle? Specifically, the Model Year (MY) 2012 Ford Focus and the MY2013 Honda Civic compressed natural gas (CNG) vehicle.”



Vehicle Cost Calculator

This tool uses basic information about your driving habits to calculate total cost of ownership and emissions for makes and models of most vehicles, including alternative fuel and advanced technology vehicles. Also see the [cost calculator widgets](#).



[ASSUMPTIONS](#)

Choose vehicles to compare

Select up to eight vehicles to compare from the makes and models below or [create your own custom vehicle](#).

2013 ▼ Honda ▼ Civic Natural Gas 4cyl 1.8L Automatic 5-spd CNG ▼ [ADD >>](#)

[Create Custom Vehicle](#)

	Vehicle	Price	Fuel Economy (City/Hwy)	Fuel Type
<input type="checkbox"/>	 2012 Ford Focus FWD 4cyl 2.0L Manual 5-spd Gasoline	\$ 16,500	26/36 mpg	Gasoline
<input type="checkbox"/>	 2013 Honda Civic Natural Gas 4cyl 1.8L Automatic 5-spd CNG	\$ 26,305 Tax credit?	27/38 mpg CNG	Natural Gas

[Clear all](#)

Fuel Prices

☒ Gasoline \$ 3.34 /gal
 ☒ Natural Gas \$ 2.09 /gal

Use standard assumptions or behavior-specific information to get more accurate results

Tell us how you use your car

Because vehicle efficiencies vary depending on how you use your car, this information allows the tool to more accurately calculate fuel usage.

Normal Daily Use

Average daily driving distance miles

Days per week

Weeks per year

Percent highway

Other Trips

Annual mileage miles

Percent highway

Annual Driving Distance **11926 miles**
City Distance **5301 miles**
Highway Distance **6625 miles**

GET RESULTS

1 AFDC Vehicle Cost Calculator: Results



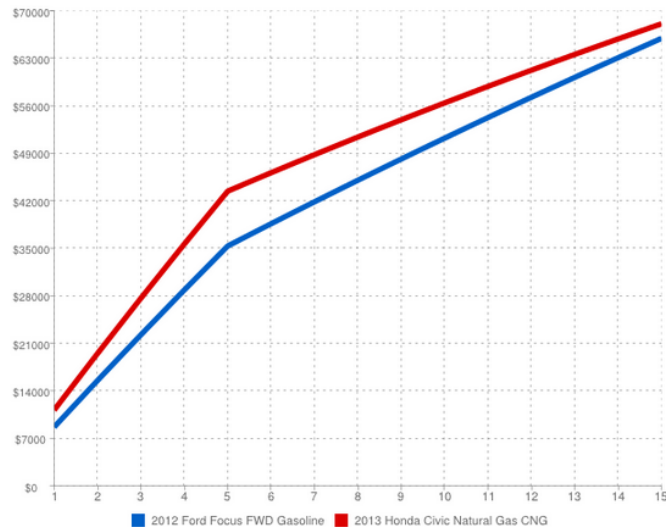
Vehicle

2012 Ford Focus FWD Gasoline

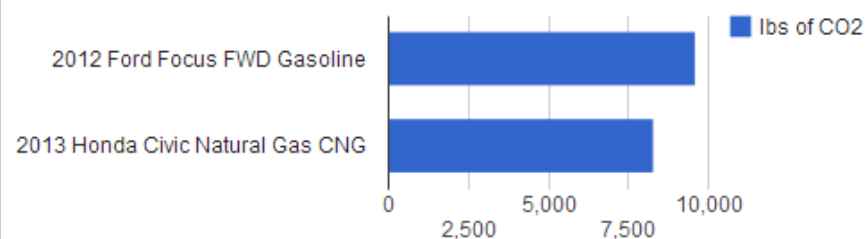
2013 Honda Civic Natural Gas CNG

Annual Fuel Use	Annual Electricity Use	Annual Fuel/Elec Cost	Annual Operating Cost	Cost Per Mile	Annual Emissions (lbs CO2)
388 gal	0 kWh	\$1,296	\$3,553	\$0.30	9,605
371 gal	0 kWh	\$775	\$3,032	\$0.25	8,292
Graph	Graph	Graph	Graph	Graph	Graph

Cumulative Cost of Ownership by Year (Dollars)



Annual Emissions (lbs CO2)



- The MY2013 Honda Civic CNG emits about 14% less CO₂ annually (well-to-wheels) than the MY2012 Ford Focus
- Since the purchase price of the MY2013 Honda Civic CNG is \$9,805 more than the MY2012 Ford Focus, the cumulative cost of ownership for the Honda Civic CNG is higher. That said, on an annual basis the operating cost is approximately \$500 less for the Honda Civic CNG.

2 Petroleum Reduction Planning Tool (PREP) Tool: Choose your plan (www.afdc.energy.gov/prep/)



“Our fleet would like to reduce our petroleum consumption by 60,000 gasoline gallon equivalents (GGE) annually. Is there a tool that allows us to try out various scenarios to create a comprehensive plan of attack?”



Petroleum Reduction Planning Tool

This planning tool helps your vehicle fleet reduce petroleum consumption and greenhouse gas (GHG) emissions. Create a comprehensive plan for your fleet by using several savings methods. If your fleet includes multiple vehicle types, add more vehicles to each method.

[ASSUMPTIONS](#)

My Current Plan

[SET GOAL](#) [CLEAR PLAN](#)

Savings Methods		Petroleum Reduction gal/yr	GHG Reduction tons CO ₂ /yr	Fuel Cost Savings \$/yr	Impact on Plan percent
Replace Vehicles	ADD TO PLAN	0	0	\$0	0%
Use Alternative Fuel in Existing Vehicles	ADD TO PLAN	0	0	\$0	0%
Reduce Idling	ADD TO PLAN	0	0	\$0	0%
Reduce Mileage	ADD TO PLAN	0	0	\$0	0%
Drive Efficiently	ADD TO PLAN	0	0	\$0	0%
Total savings from plan per year		0 gallons	0 tons of CO ₂	\$0	100%

[LOG IN TO SAVE/VIEW PLANS](#)[START NEW PLAN](#)

● Petroleum reduction goal

2 PREP Tool: Savings Methods



Progress:

- *The fleet will make it over half way to their total petroleum reduction goal*
- *For petroleum reduction goals to be met, the fleet will need to ramp up one or more of their savings methods*
- *In addition to the petroleum reduction goals, this plan will save the fleet \$15,440 and reduce emissions by 359 tons per year*

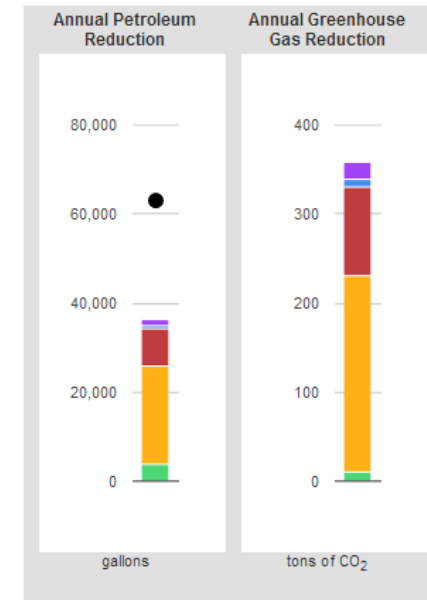
My Current Plan

SET GOAL CLEAR PLAN

Savings Methods		Petroleum Reduction gal/yr	GHG Reduction tons CO ₂ /yr	Fuel Cost Savings \$/yr	Impact on Plan percent
Replace Vehicles	ADD ANOTHER	3,845	10	\$-4380	11%
Replace 10 small gas SUVs with 10 small suvs using ethanol (E85)	edit delete	3,845	10	\$-4,380	11%
Use Alternative Fuel in Existing Vehicles	ADD ANOTHER	22,164	220	\$-14808	61%
Use B20 in 200 large diesel pickups	edit delete	22,164	220	\$-14,808	61%
Reduce Idling	ADD ANOTHER	8,090	100	\$27,021	22%
Reduce idling in 35 midsize gas cars from 6 hours per day to 3 hours per day	edit delete	8,090	100	\$27,021	22%
Reduce Mileage	ADD ANOTHER	747	9	\$2,494	2%
Reduce miles traveled in 10 compact gas cars from 11,919 miles to 10,000 miles	edit delete	747	9	\$2,494	2%
Drive Efficiently	ADD ANOTHER	1,531	19	\$5,113	4%
Improve efficiency in 150 small gas SUVs by 2%	edit delete	1,531	19	\$5,113	4%
Total savings from plan per year		36,376 gallons	359 tons of CO₂	\$15,440	100%

LOG IN TO SAVE/VIEW PLANS

START NEW PLAN




● Petroleum reduction goal


3 AFLEET Tool (greet.es.anl.gov/afleet)



“I am trying to calculate the emissions and payback for a heavy-duty diesel refuse truck versus its liquefied natural gas (LNG) counterpart. Is there a tool available that can calculate this for multiple vehicles?”

**Argonne**
NATIONAL LABORATORY

Transportation Technology R&D Center

U.S. DEPARTMENT OF
ENERGY

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Alternative Fuels
Autonomie
Batteries
Engines
Green Racing

GREET

- Fuel-Cycle Model
- Power Water Model
- Copyright Statement
- Mini-tool and Results
- Vehicle-Cycle Model
- Publications
- AFLEET Tool
- Fleet Footprint Calculator
- Travel Carbon Calculator
- Workshops
- Contact

Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) Tool

AFLEET Tool

Download tool and documentationOctober 28, 2013

- AFLEET Tool 2013 ([2.9 MB.xls](#))
- User Guide for AFLEET Tool 2013 ([609 kB.pdf](#))

What is AFLEET Tool?October 28, 2013

The Department of Energy's Clean Cities Program has enlisted the expertise of Argonne develop a tool to examine both the environmental and economic costs and benefits of alternative fuel and advanced vehicles. Argonne has developed the **Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) Tool** for Clean Cities stakeholders to estimate petroleum use, greenhouse gas emissions, air pollutant emissions, and cost of ownership of light-duty and heavy-duty vehicles using simple spreadsheet inputs.

The tool uses data from Argonne's Greenhouse gases, Regulated Emissions, and Energy use in Transportation (GREET) fuel-cycle model to generate necessary well-to-wheels petroleum use and GHG emission co-efficients for key fuel production pathways and vehicle types. In addition, Environmental Protection Agency's **MOtor Vehicle Emission Simulator (MOVES)** and certification data are used to estimate tailpipe air pollutant emissions. Various sources are used to provide default cost data, including the Clean Cities Alternative Fuel Price Report and American Recovery and Reinvestment Act awards.

Clean Cities / 10

3 AFLEET Tool: Inputs and Payback Results



Color Scheme for Cells in the AFLEET Tool

- Yellow cells are key assumptions that users can change with their data
- Orange cells are key options that users will select from a drop-down menu
- Clear cells are for calculations and secondary assumptions

Key Inputs

Primary Vehicle Location				
State	COLORADO			
Light-Duty Vehicle Information				
Vehicle Type	Passenger Car			
Light-Duty Fuel Type	Number of Light-Duty Vehicles	Annual Vehicle Mileage	Fuel Economy (MPGGE)	Purchase Price (\$/Vehicle)
Gasoline	0	12,400	26.7	\$20,000
Diesel	0	12,400	32.0	\$22,500
Gasoline Hybrid Electric Vehicle (HEV)	0	12,400	37.4	\$28,000
Gasoline Plug-in Hybrid Electric Vehicle (PHEV)	0	12,400	41.4	\$33,000
Gasoline Extended Range Electric Vehicle (ER-EV)	0	12,400	31.5	\$35,000
All-Electric Vehicle (EV)	0	12,400	90.8	\$37,500
Biodiesel (B20)	0	12,400	32.0	\$22,500
Biodiesel (B100)	0	12,400	32.0	\$22,500
Ethanol (E85)	0	12,400	26.7	\$20,000
Propane (LPG)	0	12,400	26.7	\$26,000
Compressed Natural Gas (CNG)	0	12,400	25.4	\$27,000
Heavy-Duty Vehicle Information				
Vehicle Type	Refuse Truck			
Heavy-Duty Fuel Type	Number of Heavy-Duty Vehicles	Annual Vehicle Mileage	Fuel Economy (MPGGE)	Purchase Price (\$/Vehicle)
Gasoline	0	0	1.3	\$0
Diesel	30	23,400	1.5	\$210,000
All-Electric Vehicle (EV)	0	23,400	4.2	\$670,000
Diesel Hybrid Electric Vehicle (HEV)	0	23,400	1.9	\$260,000
Diesel Hydraulic Hybrid (HHV)	0	23,400	1.9	\$250,000
Biodiesel (B20)	0	23,400	1.5	\$210,000
Biodiesel (B100)	0	23,400	1.5	\$210,000
Ethanol (E85)	0	0	1.3	\$0
Propane (LPG)	0	0	1.4	\$0
Compressed Natural Gas (CNG)	0	23,400	1.3	\$260,000
Liquefied Natural Gas (LNG)	30	23,400	1.3	\$250,000
LNG / Diesel Pilot Ignition	0	0	1.5	\$0
Fuel and DEF Price	Fuel Unit	\$/Fuel Unit	Default GGE	User GGE
Gasoline	gasoline gallon	\$3.56	\$3.56	\$3.56
Diesel	diesel gallon	\$4.11	\$3.56	\$3.56
Electricity	kWh	\$0.11	\$3.74	\$3.74
B20	B20 gallon	\$4.16	\$3.66	\$3.66
B100	B100 gallon	\$4.55	\$4.27	\$4.27
E85	E85 gallon	\$3.40	\$4.64	\$4.64
Propane	LPG gallon	\$2.91	\$3.84	\$3.84
CNG	CNG GGE	\$2.21	\$2.21	\$2.21
LNG	LNG gallon	\$1.53	\$2.29	\$2.29
DEF	DEF gallon	\$2.80	\$2.80	\$2.80

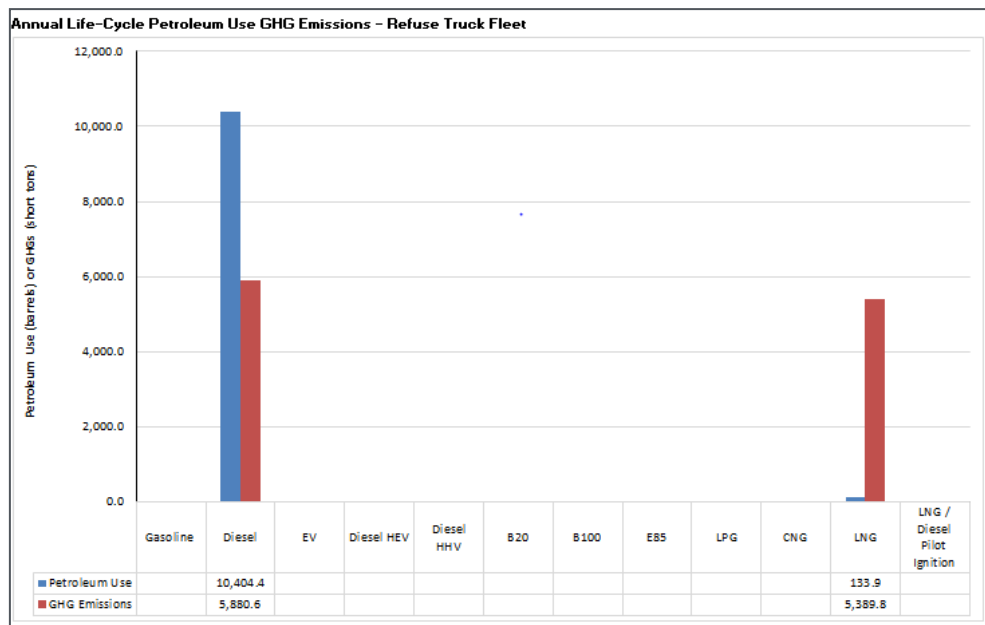
Sheet Name	Hyperlinks	Description
Inputs		Enter key inputs for Simple Payback and Total Cost of Ownership calculations - For Simple Payback calculation enter: vehicle type, # of vehicles, annual mileage/vehicle, vehicle - For Total Cost of Ownership calculation also enter: years of planned vehicle ownership, if vehicle loan terms, and discount rate
Payback		This sheet calculates simple payback based on vehicle purchase price and annual operating saving - Annual petroleum (life-cycle), greenhouse gas emissions (life-cycle), and air pollutant emissions (V also estimated - This sheet also has default assumptions for PHEV/EREV fuel economy, vehicle incentive, maintena DEF use, which can be modified
Payback Outputs		Results for Simple Payback calculations
TCO	Total Cost of Ownership- Light-Duty Total Cost of Ownership- Heavy Duty	This sheet calculates total cost of ownership for both light and Heavy-Duty vehicles (see hyperlinks - Lifetime petroleum (life-cycle), greenhouse gas emissions (life-cycle), and air pollutant emissions also estimated
TCO Outputs		Results for Total Cost of Ownership calculations
Footprint		Enter vehicle type, model year, miles traveled and fuel use to calculate energy use and emissions c
Footprint Outputs		Results for Footprint calculations
Background Data	AFLEET Look Up Tables Cost Data GREET Fleet Specifications State Emission Factors National Emission Factors	Data on cost and environmental factors that is sorted into the following categories (see hyperlinks - Look up tables for vehicle cost, fuel use, mileage, and maintenance cost; these values are used in - Background data on fuel and vehicle costs - Background data on petroleum use and greenhouse gas emissions - Background data on state level emission factors - Background data on national emission factors and deterioration

Instructions Inputs Payback Payback Outputs TCO TCO Outputs Footprint Footprint Outputs

3 AFLEET Tool: Annual Payback

Payback & Payback Outputs Tabs

Calculate and show results for simple payback based on vehicle purchase price, annual operating savings, and life-cycle emissions.



Annual Simple Payback Calculator Outputs - Costs

	Diesel	LNG
Acquisition Cost		
Heavy-Duty (HD) Fleet	\$6,300,000	\$7,500,000
Annual Operating Cost		
HD Fuel Cost	\$1,666,080	\$1,260,847
HD Diesel Exhaust Fluid Cost	\$26,208	\$0
HD Maintenance Cost	\$2,029,047	\$2,039,577
Incremental Acquisition Cost		
Compared to Diesel HD Fleet		\$1,200,000
Annual Operating Savings		
Compared to Diesel HD Fleet		\$420,911
Simple Payback (years)		
Heavy-Duty Fleet		2.9

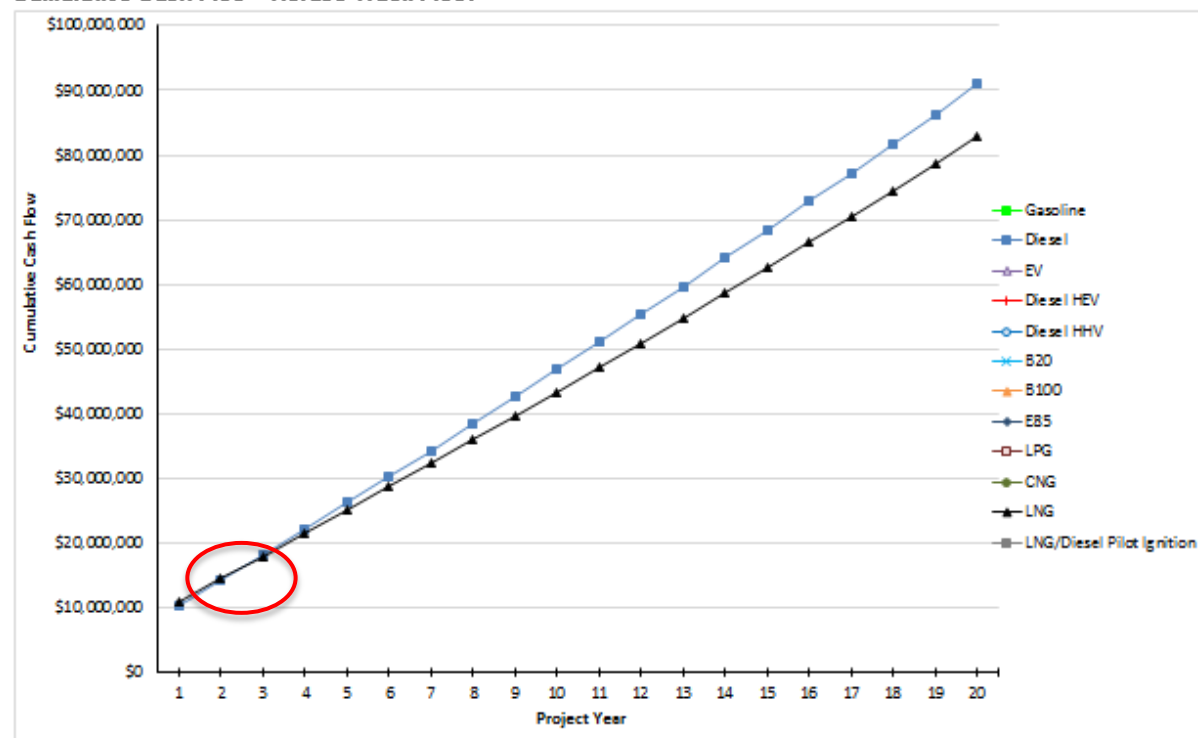
Annual Simple Payback Calculator Outputs - Energy Use and Emissions

	Diesel	LNG
Annual Life-Cycle Petroleum Use (barrels)		
HD Petroleum Use	10,404.4	133.9
Annual Life-Cycle Greenhouse Gas Emissions (short tons)		
HD GHG Emissions	5,880.6	538.8
Vehicle Operation Air Pollutant Emissions (lb)		
Heavy-Duty Fleet		
CO	907.4	11,796.7
NOx	2,579.4	1,805.6
PM10	200.5	200.5
PM2.5	85.3	85.3
VOC	148.7	491.9

3 AFLEET Tool: Lifetime Total Cost of Ownership



Cumulative Cash Flow - Refuse Truck Fleet



2.9 year payback period, based on 28 years of ownership

LNG Refuse Truck Acquisition Cost

Purchase Price	\$/vehicle	\$250,000
Incentive	\$/vehicle	\$0
Total Purchase Price of Vehicle(s)	\$/fleet	\$7,500,000
Total Incentives	\$/fleet	\$0
Total Net Price of Vehicle(s)	\$/fleet	\$7,500,000
Down Payment	\$/fleet	\$0
Loan Amount	\$/fleet	\$0

Diesel Refuse Truck Acquisition Cost

Purchase Price	\$/vehicle	\$210,000
Incentive	\$/vehicle	\$0
Total Purchase Price of Vehicle(s)	\$/fleet	\$6,300,000
Total Incentives	\$/fleet	\$0
Total Net Price of Vehicle(s)	\$/fleet	\$6,300,000
Down Payment	\$/fleet	\$0
Loan Amount	\$/fleet	\$0


Lifetime Cost of Ownership Calculator Outputs - Costs

	Diesel	LNG
Heavy-Duty Refuse Truck Fleet		
Financing	\$0	\$0
Depreciation	\$6,251,262	\$7,441,978
Fuel	\$47,280,488	\$34,391,773
Diesel Exhaust Fluid	\$740,746	\$0
Maintenance and Repair	\$69,258,044	\$69,617,467
Insurance	\$5,250,040	\$5,250,040
License and Registration	\$552,953	\$552,959
Total Cost of Ownership	\$129,333,539	\$117,254,217

- 4 AFDC Station Locator
- 5 AFDC Laws & Incentives Database
- 6 AFDC Light- & Heavy-Duty Vehicle Search
- 7 FuelEconomy.gov
- 8 AFDC Case Studies Search



Alternative Fueling Station Locator

Locate alternative fueling stations and get maps and driving directions.  [mobile](#)



Laws and Incentives Search

Search for laws and incentives related to alternative fuels and advanced vehicles.



Light-Duty Vehicle Search

Compare light-duty alternative fuel vehicles, electric vehicles, and hybrids.



Heavy-Duty Vehicle and Engine Search

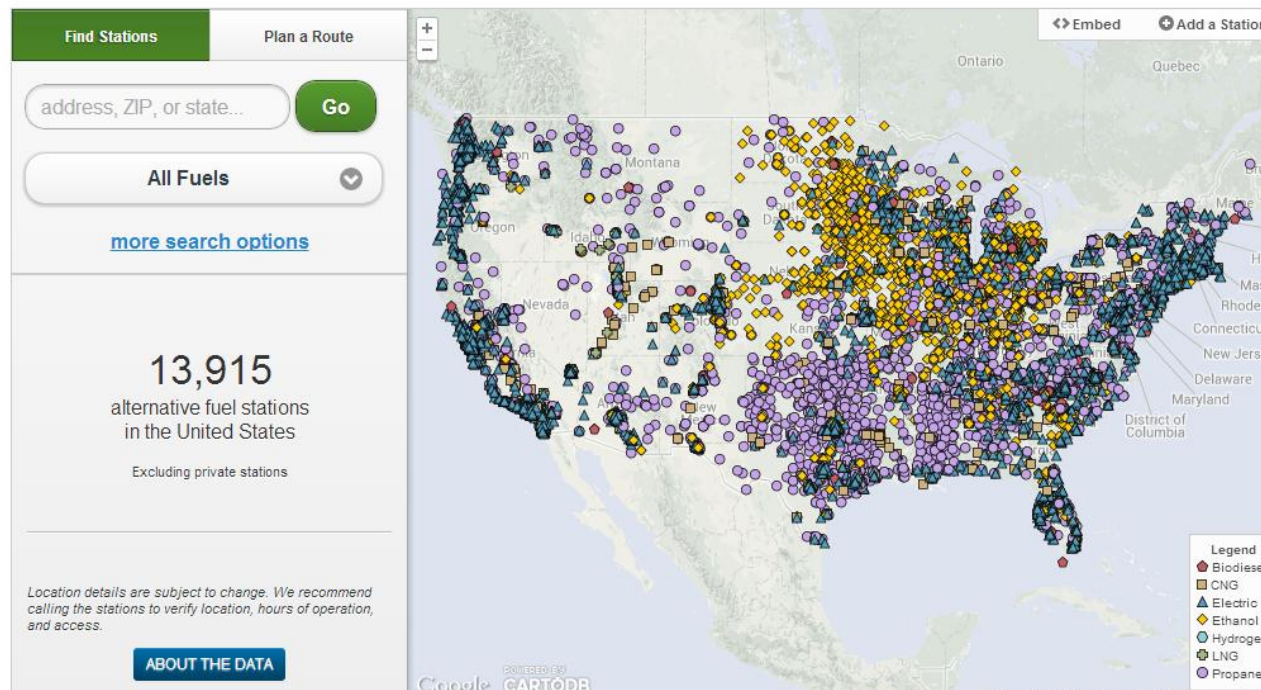
Find medium- and heavy-duty alternative fuel vehicles, engines, and hybrid systems.



- “How many fueling stations by fuel type are there in the United States?”
- “How close is the nearest E85 fueling station to my fleet facility?”
- “Are there any private CNG fueling stations that would allow my fleet to fuel in case of emergency?”
- “Are there any planned biodiesel fueling stations near my home?”

Alternative Fueling Station Locator

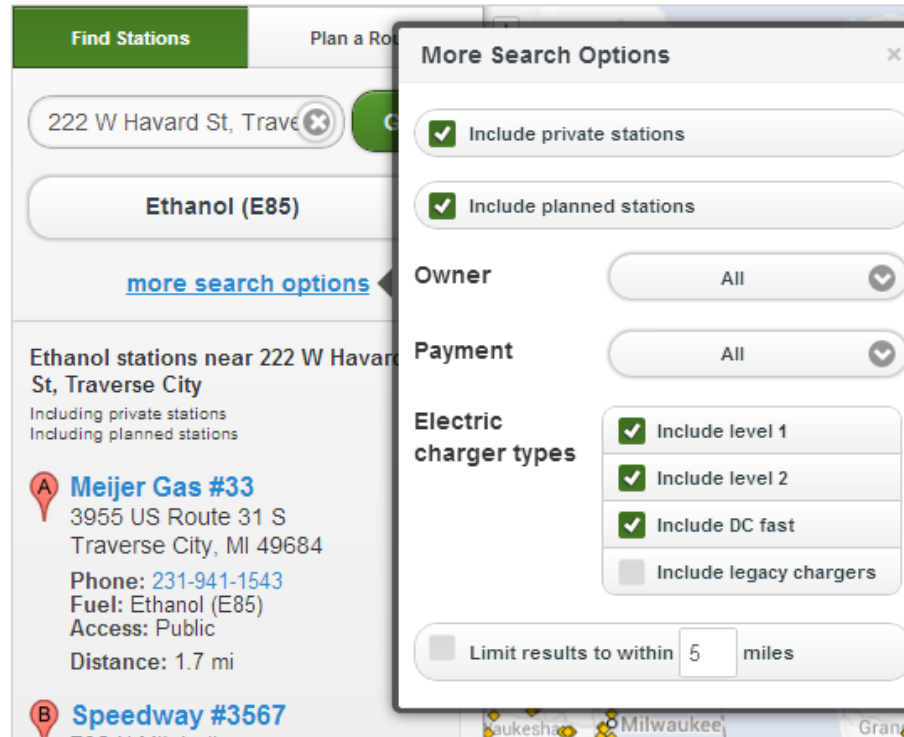
Find alternative fueling stations near an address or ZIP code or along a route in the United States. Enter a state to see a station count.



4 AFDC Station Locator: Search Capabilities

Alternative Fueling Station Locator

Find alternative fueling stations near an address or ZIP code or along a route in the United States. Enter a state to see a station count.



Find Stations Plan a Route

222 W Havard St, Traverse City, MI 49684

Ethanol (E85)

[more search options](#)

Ethanol stations near 222 W Havard St, Traverse City, MI 49684

Including private stations
Including planned stations

Meijer Gas #33
3955 US Route 31 S
Traverse City, MI 49684
Phone: 231-941-1543
Fuel: Ethanol (E85)
Access: Public
Distance: 1.7 mi

Speedway #3567

More Search Options

- ☒ Include private stations
- ☒ Include planned stations

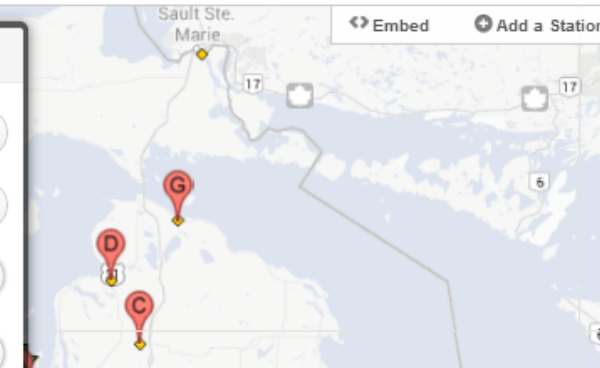
Owner All

Payment All

Electric charger types

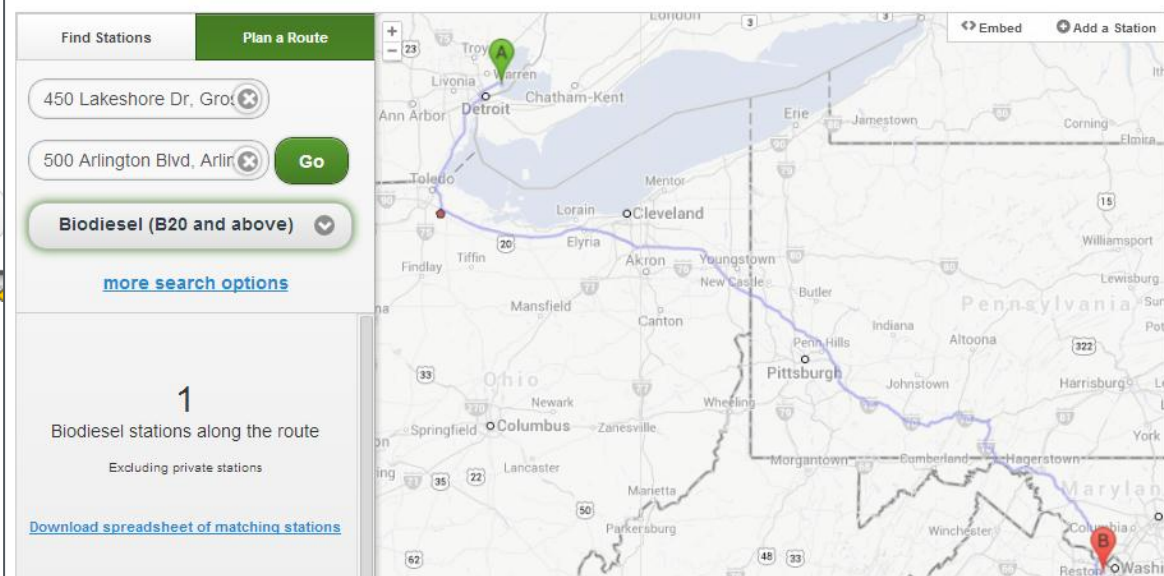
- ☒ Include level 1
- ☒ Include level 2
- ☒ Include DC fast
- ☐ Include legacy chargers

☐ Limit results to within 5 miles



Alternative Fueling Station Locator

Find alternative fueling stations near an address or ZIP code or along a route in the United States. Enter a state to see a station count.



Find Stations **Plan a Route**

450 Lakeshore Dr, Grosse Pointe Park, MI 48126

500 Arlington Blvd, Arlington, VA 22202

Biodiesel (B20 and above)

[more search options](#)

1 Biodiesel stations along the route

Excluding private stations

[Download spreadsheet of matching stations](#)

Map showing alternative fueling stations along a route in the United States. The map displays a route from Grosse Pointe Park, MI to Arlington, VA, with several stations marked along the way. The map includes a legend for station types and a search bar.

- Find fueling stations near you or along your planned driving route!
- Narrow your search

4 AFDC Station Locator: Station Information



Alternative Fueling Station Locator

Find alternative fueling stations near an address or ZIP code or along a route in the United States. Enter a state to see a station count.

Find Stations

Plan a Route

Illinois

Go

Compressed Natural Gas

more search options

11

CNG stations
in Illinois

Excluding private stations
Owner: Private

Download spreadsheet of matching
stations

ABOUT THE DATA

Clean Energy - Peoria Disposal Co -
Public Access

1113 N Swords Ave
West Peoria, IL 61604
562-493-2804

Directions | Find Nearby Stations

Access: Public - Credit card at all times
Hours: 24 hours daily
Payments accepted: Discover, MasterCard, VISA, Voyager, WEX,
Clean Energy

Fuel Available

Compressed Natural Gas

Fill type: Fast-fill
Compression: 3600 PSI
Vehicle Accessibility: Accommodates all vehicle sizes and classes

Last confirmed: July 2013

Location details are subject to change. We recommend calling the stations to verify location, hours of operation, and access.

Edit this station

All locations are approximate

Ohio

Terms of Use

“What incentives are available to help purchase a MY2014 Nissan Leaf all-electric vehicle (EV) in California?”

Federal

State

Advanced Search


All Laws & Incentives Sorted by Type

Federal and State Laws and Incentives


Find federal and state laws and incentives for alternative fuels and vehicles, air quality, fuel efficiency, and other transportation-related topics.

Federal Incentives and Laws


State Incentives and Laws

 **Search All Laws and Incentives** ▶


Use an advanced search to find a specific federal or state law or incentive.

 **View Tables of Laws and Incentives** ▶

View laws and incentives sorted by [technology/fuel](#), [incentive](#), [regulation](#), or [user](#).

 **Read Key Legislation** ▶


Read selected legislation summaries about alternative transportation technologies.

 **Find Local Laws and Incentives** ▶

Find examples of laws and incentives from local governments.

Maps & Data

Regulation Additions by Regulation Type



[More Laws & Incentives Data](#) | [All Maps & Data](#)

- + Case Studies
- + Publications
- + Tools

Advanced Search

Search incentives and laws related to alternative fuels and advanced vehicles. Choose one or more jurisdictions to start your search. Select additional options to narrow your search.

Jurisdiction	Technology/Fuel	Incentive/Regulation	User
<input type="checkbox"/> All	<input type="checkbox"/> All	<input type="checkbox"/> All	<input type="checkbox"/> All
<input checked="" type="checkbox"/> Federal	<input type="checkbox"/> Biodiesel	<input type="checkbox"/> Acquisition or Fuel Use	<input checked="" type="checkbox"/> Vehicle Owner or Driver
<input type="checkbox"/> Alabama	<input type="checkbox"/> Ethanol	<input type="checkbox"/> Grants	<input type="checkbox"/> Fleet Purchaser or Manager
<input type="checkbox"/> Alaska	<input type="checkbox"/> Natural Gas	<input type="checkbox"/> Driving or Idling	<input type="checkbox"/> Fueling or TSE Infrastructure Owner
<input type="checkbox"/> Arizona	<input type="checkbox"/> Propane (LPG)	<input type="checkbox"/> Registration or Licensing	<input type="checkbox"/> Alternative Fuel Producer
<input type="checkbox"/> Arkansas	<input type="checkbox"/> Hydrogen Fuel Cells	<input checked="" type="checkbox"/> Tax Incentives	
<input checked="" type="checkbox"/> California	<input checked="" type="checkbox"/> EVs		
<input type="checkbox"/> Colorado	<input type="checkbox"/> LP-Gas (Propane)		

SEARCH [Clear](#)

In this case, since both federal and state incentives may be available to EVs in Utah, the Advanced Search is the best route.

State

Plug-In Hybrid and Zero Emission Light-Duty Vehicle Rebates

The Clean Vehicle Rebate Project (CVRP) offers rebates for the purchase or lease of qualified vehicles. The rebates offer up to \$2,500 for light-duty zero emission and plug-in hybrid vehicles that the California Air Resources Board (ARB) has approved or certified. The rebates are available on a first-come, first-served basis to individuals, business owners, and government entities in California that purchase or lease new eligible vehicles. Manufacturers must apply to ARB to have their vehicles included in CVRP. ARB determines annual funding amounts for CVRP, which is expected to be effective through 2023. For more information, including a list of eligible vehicles and other requirements, see the [CVRP](#) website. (Reference [Assembly Bill 8](#), 2013)

Alternative Fuel and Advanced Vehicle Rebate - San Joaquin Valley

The San Joaquin Valley Air Pollution Control District (SJVAPCD) administers the Drive Clean! Rebate Program, which provides rebates for the purchase or lease of eligible new vehicles, including qualified natural gas, propane, and plug-in electric vehicles. The program offers rebates of up to \$3,000, which are available on a first-come, first-served basis for residents and businesses located in the SJVAPCD that purchase a qualified vehicle on or after March 15, 2012. For more information, including a list of eligible vehicles and other requirements, see the SJVAPCD [Drive Clean! Rebate Program](#) website.

Federal

Qualified Plug-In Electric Drive Motor Vehicle Tax Credit

A tax credit is available for the purchase of a new qualified plug-in electric drive motor vehicle that draws propulsion using a traction battery that has at least five kilowatt hours (kWh) of capacity, uses an external source of energy to recharge the battery, has a gross vehicle weight rating of up to 14,000 pounds, and meets specified emission standards. The minimum credit amount is \$2,500, and the credit may be up to \$7,500, based on each vehicle's traction battery capacity and the gross vehicle weight rating. The credit will begin to be phased out for each manufacturer in the second quarter following the calendar quarter in which a minimum of 200,000 qualified plug-in electric drive vehicles have been sold by that manufacturer for use in the United States. This tax credit applies to vehicles acquired after December 31, 2009. For more information, see the Internal Revenue Service (IRS) [Plug-In Electric Vehicle Credit](#) website and IRS Form 8936, which is available via the [IRS Forms and Publications](#) website.

A credit is also available for the purchase of a new qualified two- or three-wheeled plug-in electric drive vehicle that draws propulsion using a traction battery that has at least 2.5 kWh of capacity, uses an external source of energy to recharge the battery, has a gross vehicle weight rating of up to 14,000 pounds, is manufactured primarily for use on public roadways, and can drive at least 45 miles per hour. The credit is for 10% of the cost of the qualified vehicle, up to \$2,500, and applies to vehicles acquired between January 1, 2012, and December 31, 2013. While this specific credit expires December 31, 2013, it will remain posted until the federal tax filing deadline.

(Reference [Public Law 112-240](#), Section 403; and 26 [U.S. Code](#) 30D)

6 AFDC Light- & Heavy-Duty Vehicle Search (www.afdc.energy.gov/vehicles/search/light/) (www.afdc.energy.gov/vehicles/search/heavy)



“I’m looking into procuring additional vehicles for my fleet, both light- and heavy-duty, is there a way to look at all available vehicles within certain parameters?”

Alternative Fuels Data Center

Alternative Fuels Data Center
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Light-Duty Vehicle Search

Search our light-duty alternative fuel vehicle database to find and compare alternative fuel vehicles and generate printable reports to aid in decision-making. These vehicles might not qualify for vehicle-acquisition credits under the U.S. Department of Energy's [EPA's State and Fuel Provider](#) or [Federal Fleet Management](#) programs. Contact these programs if you have questions about eligible vehicles.



Also see:

[Clean Cities 2014 Vehicle Buyer's Guide](#)

Fuel Type	Manufacturer	Class
<input type="text" value="All"/>	<input type="text" value="All"/>	<input type="text" value="All"/>
Years		
<input checked="" type="checkbox"/> 2015 (1) More Years	<input checked="" type="checkbox"/> 2014 (196)	<input type="checkbox"/> 2013 (161)
<input type="checkbox"/> 2012 (120)		

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Heavy-Duty Vehicle and Engine Search

Search our database to find and compare specific vehicles, engines, or hybrid propulsion systems and generate printable reports.

[Vehicles](#)

[Engines & Power Sources](#)

[Hybrid Propulsion Systems](#)

Manufacturer	Fuel Type	Application
<input type="text" value="All"/>	<input type="text" value="All"/>	<input type="text" value="All"/>



Also see:
[Clean Cities Guide to Alternative Fuel and Advanced Medium- and Heavy-Duty Vehicles](#)

“Is there a resource available that will easily allow me to compare the fuel economy and purchasing price of the MY2014 Ford Focus Electric to the MY2014 Volkswagen Jetta Hybrid?”

U.S. DEPARTMENT OF
ENERGY | Energy Efficiency &
Renewable Energy

Office of Transportation
& Air Quality | **U.S. ENVIRONMENTAL
PROTECTION AGENCY**

www.fueleconomy.gov

the official U.S. government source for fuel economy information

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Benefits

My MPG

Advanced Vehicles & Fuels

About EPA Ratings

More...

About the Ratings
Your Mileage Will Still
Vary

Fuel Economy Tests

Which Vehicles Are
Tested

Detailed Test
Information

How Vehicles Are Tested

Fuel economy is measured under conditions specified by federal law. Manufacturers submit the results to EPA. EPA reviews the results and publishes them on the [National Vehicles and Fuel Economy Program](#).

Estimating MPG with Laboratory Tests

In the laboratory, the vehicle is placed on a machine called a dynamometer that simulates the driving environment. The exercise bike simulates cycling.

The energy required to move the vehicle is adjusted to account for wind resistance.

About the Ratings

Your Mileage Will Still
Vary

Factors That Affect
Fuel Economy

Fuel Economy Tests

Your Mileage Will Still Vary

EPA has improved its methods for estimating fuel economy, but your mileage will still vary.

EPA tests are designed to reflect "typical" driving behavior, but [several factors can affect MPG](#):

- How & Where You Drive
- Vehicle Condition & Maintenance
- Fuel Variations
- Vehicle Variations
- Engine Break-In

Therefore, the EPA ratings are a useful tool for comparing fuel economies of different vehicles but may not accurately predict the average MPG you will get.

To find out what you can do to improve the fuel economy of your car, see [Driving More Efficiently](#) and [Keeping Your Car in Shape](#).

Find and Compare Cars

Browse by Model

Select Year

Select Make

Select Model

Go

Need help choosing a car?



Search by MPG, price, make, body style, and much more with our

Power Search

Search by Class

2014

Small Cars

Combined MPG >=

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Browse New Cars



www.fueleconomy.gov

the official U.S. government source for fuel economy information

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About EPA Ratings

More...

You are here: [Find a Car Home](#) > [Side-by-Side Select](#) > Compare Side-by-Side

Compare Side-by-Side

Fuel Economy



Energy and Environment

Safety

Specs

- **Find A Car**
 - Compare Side by Side (up to four vehicles)
 - Best & Worst Vehicles (in terms of fuel efficiency)

- **About EPA Ratings**
 - Fuel Economy Tests
 - Your Mileage Will Still Vary

<p>Personalize</p>	<p>2014 Ford Focus Electric X</p> <p>All-Electric Vehicle</p>  <p>Automatic (A1) MSRP: \$35,170</p>	<p>2014 Volkswagen Jetta Hybrid X</p> <p>Hybrid Vehicle</p>  <p>1.4 L, 4 cyl, Auto(AM-S7), Turbo MSRP: \$25,560 - \$31,895</p>	<p>Add a Vehicle</p>
EPA Fuel Economy			
<p>Miles per Gallon Equivalent 1 gallon of gasoline=33.7 kW-hr</p>	<p>ELECTRICITY</p> <p>105 Combined</p> <p>110 City 99 Highway</p> <p>32 kW-hrs/100 mi</p>		
<p>Miles per Gallon</p>		<p>PREMIUM GASOLINE</p> <p>45 Combined</p> <p>42 City 48 Highway</p> <p>2.2 gallons/100 mi</p>	


“A local school system in the area is interested in speaking with fleet managers / maintenance managers of large fleets that use propane school buses. How can I find fleets to contact?”

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Case Studies

Find case studies and success stories about alternative transportation technologies and alternative fuels.



Fort Collins: A Multi-Fuel Approach to Sustainable Fleet Operations

A diversity of fuels and technologies offers flexibility in reaching energy and emissions goals.

[Learn More](#)

Category

Keyword

Choose one or more items from the following categories.

Fuel/Technology	Applications
<input type="checkbox"/> All Fuels	<input type="checkbox"/> All Applications
<input type="checkbox"/> Biodiesel	<input type="checkbox"/> Long-Haul Trucking
<input type="checkbox"/> Ethanol	<input type="checkbox"/> Refuse Collection
<input type="checkbox"/> Hydrogen	<input type="checkbox"/> Taxi Services
<input checked="" type="checkbox"/> Propane	<input type="checkbox"/> Airport
<input type="checkbox"/> Natural Gas	<input type="checkbox"/> Delivery Services
<input type="checkbox"/> All-Electric	<input type="checkbox"/> Law Enforcement
<input type="checkbox"/> Hybrid Electric	<input type="checkbox"/> Park Services
<input type="checkbox"/> Plug-In Hybrid Electric	<input type="checkbox"/> Public Transit
<input type="checkbox"/> Fuel Economy Improvements	<input checked="" type="checkbox"/> School Transportation
<input type="checkbox"/> Idle Reduction	<input type="checkbox"/> Shuttle Services
	<input type="checkbox"/> Off-Road

SEARCH

CLEAR

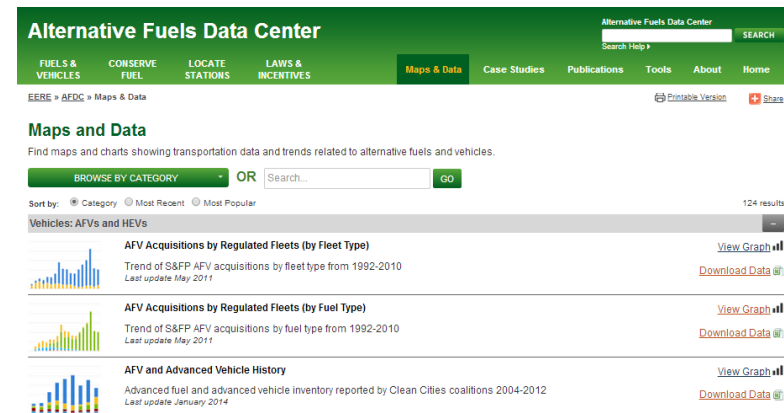
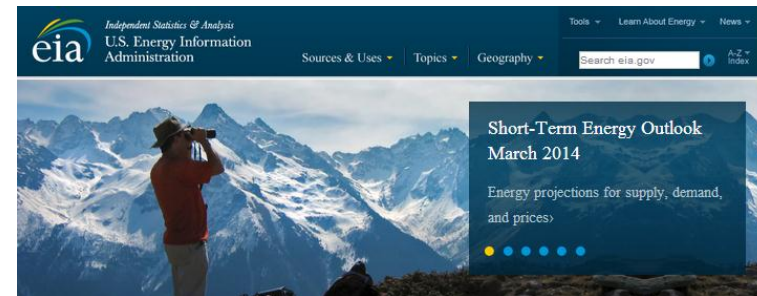
- ☐ **Search for:** “propane” and “school transportation”
- ☐ **Contact:** Clean Cities coordinators involved in the highlighted case studies

9

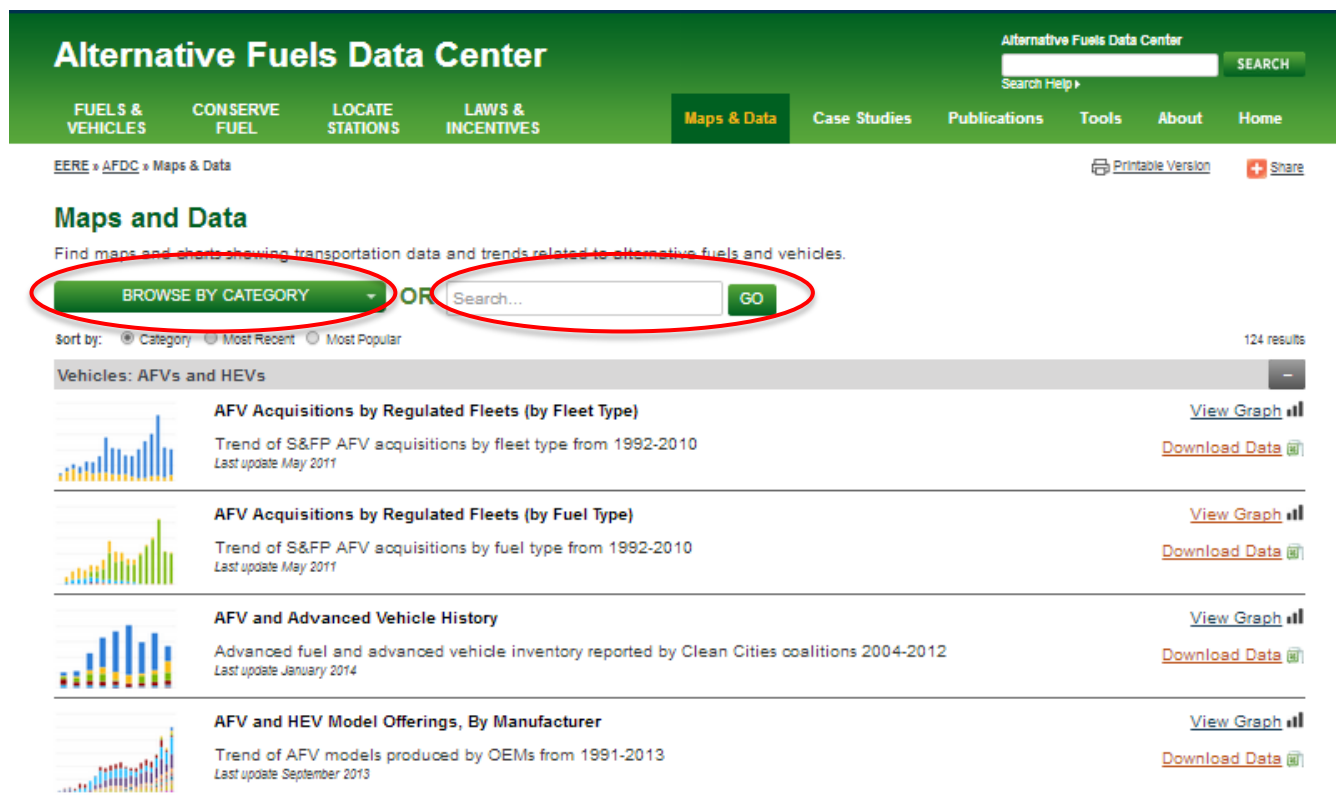
U.S. Energy Information
Administration (EIA)
Renewable & Alternative
Fuels page

10

AFDC Maps and Data
Webpage



“Are there any resources that can tell me how many CNG vehicles were estimated to be on the road each year from 2005 to 2010?”



Alternative Fuels Data Center

Alternative Fuels Data Center
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Maps and Data

Find maps and charts showing transportation data and trends related to alternative fuels and vehicles.

BROWSE BY CATEGORY OR Search... **GO**

Sort by: ☒ Category ☐ Most Recent ☐ Most Popular 124 results

Vehicles: AFVs and HEVs

	AFV Acquisitions by Regulated Fleets (by Fleet Type) Trend of S&FP AFV acquisitions by fleet type from 1992-2010 Last update May 2011	View Graph  Download Data 
	AFV Acquisitions by Regulated Fleets (by Fuel Type) Trend of S&FP AFV acquisitions by fuel type from 1992-2010 Last update May 2011	View Graph  Download Data 
	AFV and Advanced Vehicle History Advanced fuel and advanced vehicle inventory reported by Clean Cities coalitions 2004-2012 Last update January 2014	View Graph  Download Data 
	AFV and HEV Model Offerings, By Manufacturer Trend of AFV models produced by OEMs from 1991-2013 Last update September 2013	View Graph  Download Data 

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 - ☒ AFVs & hybrid electric vehicles (HEVs)
- ☐ **Fuels & Infrastructure**
- ☐ **Laws & Incentives**
- ☐ **Regulated Fleets**
- ☐ **Clean Cities**

9 AFDC Maps and Data Webpage



Find maps and charts showing transportation data and trends related to alternative fuels and vehicles.

BROWSE BY CATEGORY

OR

Alternative Fuel Vehicles in use

GO

Alternative Fuel Vehicles in Use

Trend of the number of AFVs in use by fuel type from 1992-2010

Last update May 2012

[View Graph](#)

[Download Data](#)

Estimated Consumption of Alternative Fuels by AFVs

Trends of alternative fuel consumption in AFVs by fuel type from 1992-2010

Last update May 2012

[View Graph](#)

[Download Data](#)

Light-Duty AFV, HEV, and Diesel Model Offerings, By Fuel Type

Trend of vehicle models capable of

Last update April 2013

[View Graph](#)

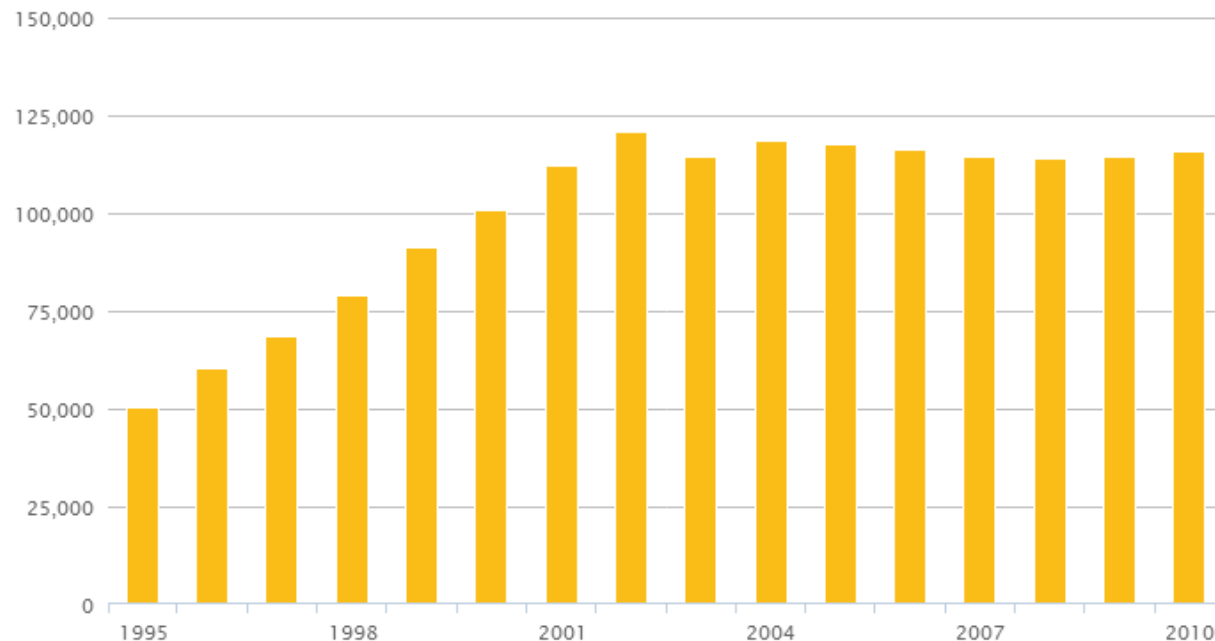
Energy Use in Light-Duty Vehicle

Percentage of energy used and lost

Last update September 2013


Alternative Fuel Vehicles in Use

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- ☐ Liquefied Petroleum Gas (LPG)
- ☒ Compressed Natural Gas (CNG)
- ☐ Liquefied Natural Gas (LNG)
- ☐ 85% Methanol (M85)
- ☐ Neat Methanol (M100)
- ☐ 85% Ethanol (E85)
- ☐ 95% Ethanol (E95)
- ☐ Electric
- ☐ Hydrogen

“I’m comparing the number of AFVs in my state government’s fleet (AZ) with the total number of AFVs in all state fleets, is there a way to easily view this data in graph format for 2011?”



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U.S. Energy Information
Administration

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Find statistics on renewable energy consumption by source type, electric capacity and electricity generation from renewable sources, biomass and alternative fuels.

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Summary	Additional Formats
Biomass	
Geothermal	
Hydropower	Additional Formats
Solar	
Wind	Additional Formats
Alternative Transportation Fuels	

Alternative Fueled and Hybrid Vehicles (On-road)
Release Date: May 4, 2012 | Data From: Alternatives to Traditional Transportation Fuels 2010

- Number of vehicles made available, back to 1994
- Number of high-duty vehicles made available, back to 1994
- Estimated number of vehicles in use and fuel consumed, back to 2000
 - By fuel type
 - By vehicle type
- Alternative fueled vehicles in use by federal agencies, 2010
- Estimated consumption of vehicle fuels in native units, by fuel type, 2008 - 2010
- Estimated consumption of vehicle fuels in thousand gasoline equivalent gallons, by fuel type, 2008 - 2010
- Projected number of vehicles to be made available, by fuel type and vehicle type, 2011

 [XLS](#)
 [XLS](#)
 [XLS](#)
 [XLS](#)

Most Requested Renewable Data

Summary Statistics

- Total Energy Consumption
- Total Renewable Consumption
- Electric Capacity
- Electricity Net Generation

Biomass

- Wood & Wood Waste
- Municipal Solid Waste & Landfill Gas
- Biofuels

Geothermal

- Geothermal Heat Pump

Hydro

Solar

10 EIA Renewable & Alternative Fuels Webpage



Renewable & Alternative Fuels ALTERNATIVE FUEL VEHICLE DATA

OVERVIEW USER & FUEL DATA SUPPLIER DATA

GLOSSARY FAQs

SELECT OPTIONS

Year Fuel Type State Weight Class
 Vehicle Type Engine Configuration User Group

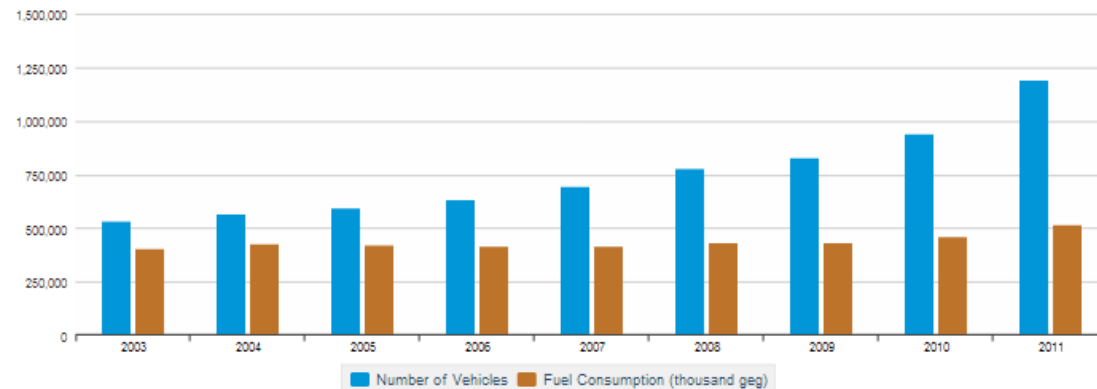
Submit Reset

Definitions, sources, and explanatory notes

Complete user & fuel data

Yearly Totals Fuel Type Vehicle Type User Group State Rank Vehicle Totals Map Fuel Consumption Map

Yearly Estimates



Arizona State Agency Vehicles

SELECT OPTIONS

2011 7 Fuel Type(s) Selected 1 State(s) Selected Weight Class
 14 selected Engine Configuration 1 User Group(s) Selected

Submit Reset

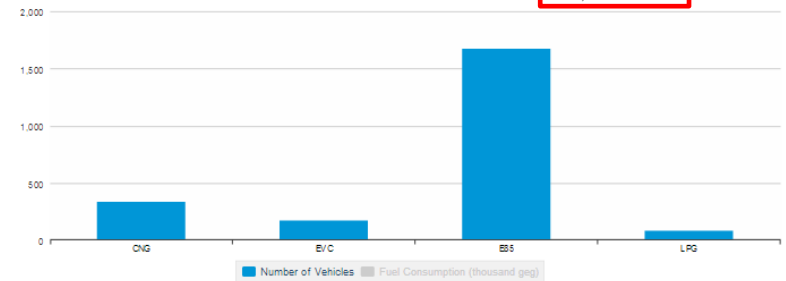
Definitions, sources, and explanatory notes

Download this query** Complete user & fuel data

Yearly Totals Fuel Type Vehicle Type User Group State Rank Vehicle Totals Map Fuel Consumption Map

Fuel Type Estimates (2011)

2,283 AFVs



All U.S. State Agency Vehicles

SELECT OPTIONS

2011 7 Fuel Type(s) Selected 51 State(s) Selected Weight Class
 14 selected Engine Configuration 1 User Group(s) Selected

Submit Reset

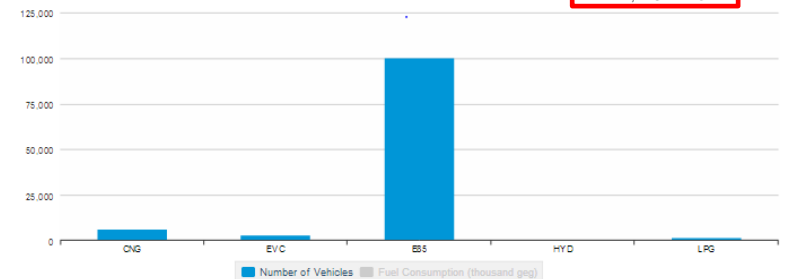
Definitions, sources, and explanatory notes

Download this query** Complete user & fuel data

Yearly Totals Fuel Type Vehicle Type User Group State Rank Vehicle Totals Map Fuel Consumption Map

Fuel Type Estimates (2011)

111,223 AFVs



Bonus! Other Government Websites



❑ U.S. Environmental Protection Agency

- ❑ Alternative Fuel Conversions:
epa.gov/otaq/consumer/fuels/altfuels/altfuels.htm
- ❑ Renewable Fuel Standard:
www.epa.gov/otaq/fuels/renewablefuels/index.htm
- ❑ Aftermarket Retrofit Device Evaluation “511” Program:
www.epa.gov/otaq/consumer/reports.htm

❑ DOE National Laboratories

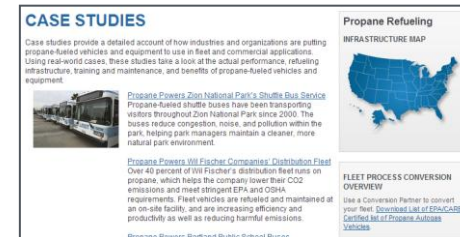
- ❑ Argonne National Laboratory: Idle Reduction Tools and Outreach Materials:
www.transportation.anl.gov/engines/idling_tools.html
- ❑ Idaho National Laboratory: Advanced Vehicle Testing Activity: avt.inel.gov/
- ❑ National Renewable Energy Laboratory: Vehicle & Fuels Research: www.nrel.gov/vehiclesandfuels/
- ❑ Oak Ridge National Laboratory: Transportation Energy Data Book: cta.ornl.gov/data/index.shtml



Bonus! Industry Association Resources



- ❑ National Biodiesel Board (NBB) Automaker's and Engine Manufacturer's Positions of Support for Biodiesel Blends
 - ❑ www.biodiesel.org/using-biodiesel/oem-information/oem-statement-summary-chart
- ❑ NGVAmerica Business Directory
 - ❑ www.ngvc.org/buz_dir/index.html
- ❑ Propane Education & Research Council (PERC) Case Studies Webpage
 - ❑ www.autogasusa.org/fueling-with-propane/refueling-options/case-studies/
- ❑ Renewable Fuel Association (RFA) Summary of Automobile Manufacturer Fuel Recommendations – 2014 Model Year
 - ❑ ethanolrfa.org/page/-/rfa-association-site/Industry%20Resources/RFA%20Auto%20Manufacturer%20Fuel%20Recommendations%202012%202013%202014%202013.10.30.pdf?nocdn=1
- ❑ Electric Drive Transportation Association (EDTA) Sales Dashboard
 - ❑ www.electricdrive.org/index.php?ht=d/sp/i/20952/pid/20952



Contact Your Local Clean Cities Coordinator

(www.afdc.energy.gov/cleancities/coalitions/coalition_contacts.php)



Sort by state to find your coordinator!

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Starting Coalitions

Contacts

Clean Cities Coalition Contacts

Clean Cities coordinators are the primary contacts for their [coalitions](#). Coordinators work with local fleets to develop and implement strategic plans to reduce petroleum use in the cities and counties they serve. Clean Cities coordinators lead nearly 100 local coalitions in communities across the country. For national-level and regional-level contacts, see [program contacts](#).



Sort by State	Sort by First Name	Sort by Last Name ▲	Sort by Coalition	Sort by Region	Phone	Contact Info
Oklahoma	Yvonne	Anderson	Central Oklahoma Clean Cities (Oklahoma City)	South Central	405-234-2264	Yvonne Anderson BIO ▶ 21 East Main St, Ste 100 Oklahoma City, OK 73104-2405 Website
Idaho	Beth	Baird	Treasure Valley Clean Cities	Northwest	208-384-3984	Beth Baird BIO ▶ P.O. Box 500 Boise, ID 83701 Website
Pennsylvania	Tony	Bandiero	Greater Philadelphia Clean Cities	Mid-Atlantic	215-990-8200	Tony Bandiero BIO ▶ 1818 Market St, 13th Fl Philadelphia, PA 19103-3638

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FuelEconomy.gov
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Energy Information Administration
www.eia.gov

Clean Cities Technical Response Service
Email: TechnicalResponse@icfi.com
Phone: 800-254-6735